

Alocasia suhirmaniana (Araceae–Colocasieae) — a spectacular new aroid from Sulawesi, Indonesia

Yuzammi and A. Hay

Abstract

Yuzammi¹ and Hay, A.² (¹Lembaga Ilmu Pengetahuan Indonesia, Upt Balai Pengembangan Kebun Raya, P.O. Box 309, Bogor 16003, Indonesia; ²Royal Botanic Gardens, Mrs Macquaries Road, Sydney, NSW, Australia 2000) 1998. *Alocasia suhirmaniana* (Araceae–Colocasieae) — a spectacular new aroid from Sulawesi, Indonesia. *Telopea* 7(4): 303–306. A new species of *Alocasia*, *A. suhirmaniana*, is described, endemic to southeast Sulawesi, Indonesia. Features distinguishing the new species from the closely allied *Alocasia longiloba* Miq. complex are discussed.

Introduction

Recent plant-collecting initiatives by staff of the Kebun Raya, Bogor, together with the ongoing revision of the genus *Alocasia* by A.H., have resulted in the discovery and recognition of a highly ornamental new species of that genus from Sulawesi, described here.

Alocasia suhirmaniana Yuzammi & A. Hay, sp. nov.

Ab *Alocasia longiloba* sens. latiss. petiolo puberulo, spathae lamina extus atropurpurea, stigmatis rotunde lobatis, synconnectivis ad margines leviter expansis differt.

Typus: Indonesia: cultivated Kebun Raya, Bogor, ex S.E. Sulawesi, Kabupaten Kolaka, Yuzammi s.n., 23 June 1997 (holo BO; photo NSW).

Terrestrial herb; rhizome 13–15 cm long; leaves 1 to 3 together; petiole to c. 60 cm long, sheathing in the lower c. $\frac{1}{5}$ – $\frac{1}{4}$, yellowish green, densely longitudinally and obliquely mottled purple-brown, minutely and densely puberulous, subtended by papery membranous cataphylls; blade broadly ovato-sagittate (shield-shaped), peltate, pointed down, thinly leathery, with the margin slightly undulate, glossy dark green adaxially with the major venation pale grey-green, dark purple abaxially; anterior lobe to c. 35 cm long \times 10–24 cm wide, widest about $\frac{1}{4}$ of the way distally from the junction with the petiole, the tip broadly acute to obtuse, shortly apiculate; anterior costa with up to 8 primary lateral veins on either side, the proximal ones diverging at 70–80°, the distal ones at c. 45°, with conspicuous purple glands in their axils abaxially; primary veins of anterior lobe each with 1–3 subsidiary veins thicker than, but running the same course as, the secondary venation; secondary venation inconspicuous, forming undulating intercostal collective veins; costae and primary veins prominent both adaxially and abaxially; posterior costae diverging at c. 35–45°; posterior lobes about $\frac{1}{2}$ to $\frac{2}{3}$ the length of the anterior, joined for c. $\frac{1}{2}$ to $\frac{2}{3}$ of their length, the tips acutely rounded. Inflorescences paired, subtended by papery membranous cataphylls to c. 11 cm long; peduncle to 24 cm long; minutely puberulous in the upper part, purple brown; spathe c. 12.5 cm long, deep purple, slender, glabrous, abruptly constricted at c. 2 cm from the base; lower spathe subcylindric; limb narrowly lanceolate; spadix somewhat shorter than spathe, c. 10 cm long, slender, very shortly

stipitate for 4 mm, stipe ivory; female zone c. 1.2 cm long, c.1 cm wide at the base, with c. 96 pistils; ovaries greenish yellow, unilocular; stigma bluntly 2–4-lobed, sessile, yellow; interstice of sterile organs c. 0.5 cm long, narrowed level with the spathe constriction to c. 4 mm diam.; lowermost synandrodia strongly lobed, the rest rhombohexagonal, c. 1.5 mm diam.; male zone c. 2 cm long, 1 cm diameter, cylindrical; synandria rhombohexagonal, the tops deeply impressed, c. 2 mm across, yellowish ivory; thecae opening by apical pores laterally displaced by lobed overgrowth of the synconnective; appendix c. 6 cm, 8 mm diameter at the base, yellowish, the interface with the male zone slightly constricted, the rest cylindrical, somewhat rugose in the lower half, tapering in the upper third; fruit unknown.

Derivation of epithet: we are pleased to dedicate this very beautiful and distinctive new species to Dr Ir. Suhirman, formerly Director of the Indonesian Botanic Gardens, who has done much to support botanical exploration and conservation in Indonesia.

Habitat: in damp shady spots in lowland rainforest on slopes. Kjellberg 2428 on limestone at sea level.

Distribution: Indonesia, SE Sulawesi, known only from the type locality and Tolala.

Notes: *Alocasia suhirmaniana* is a member of the *A. longiloba* Miq. group, which is characterised by a strongly rhythmic growth pattern, with a pronounced delay between flowering and resumption of leaf-production; thinly membranous cataphylls, degrading into rather sparse fibres; mostly peltate leaves, often purple-backed, often with white major venation, solitary or few together; spadix stipitate; stipe white; ovaries green with white to yellowish usually acutely lobed stigmas; the sterile interstice attenuate and corresponding with the spathe constriction; male zone ivory to yellowish ivory; synandria with the thecae not overtopped by synconnective; appendix pale orange-pink to yellow, occasionally ivory. The *A. longiloba* group includes, in addition to *A. suhirmaniana*, *A. sanderiana* W. Bull (Philippines) and a number of incompletely delineable 'species' currently being reduced to informal entities in the Indochinese and West Malesian *A. longiloba* complex (Hay, in prep.). In addition, an inadequately known, as yet unnamed, Philippine element may represent a fourth circumscribable species in this group (Hay, in prep.).

A. suhirmaniana is nearest in leaf shape and colour to *A. longiloba* 'watsoniana' (syn. *A. watsoniana* Mast.), a Bornean, Sumatran and Malay Peninsula variant in the taxonomically intractable *A. longiloba* complex. The new species differs mainly in the undulate (vs strongly zig-zag) intercostal collective veins, the puberulent (vs glabrous) petiole, the flat to irregularly bullate leaf blade (vs bullate in a concentric pattern around the petiole insertion) and the straight posterior costae (vs pedately in-curved). With the exception of the puberulent petiole, which is unique in this species group, the leaf is somewhat intermediate between *A. longiloba* 'watsoniana' and Bornean *A. longiloba* 'korthalsii' (syn. *A. korthalsii* Schott), though significantly larger than the latter and distinguished by the frequent production of subsidiary veins (sporadically distributed veins following the course of secondary veins, but intermediate in thickness between the primary and secondary venation).

In reproductive features *A. suhirmaniana* differs from all other members of the *A. longiloba* group in the deep purple colour of the spathe. This feature is not infrequent in Araceae, generally associated with saproentomophily, but very rare in *Alocasia*, being known only in some populations of Bornean *A. robusta* M. Hotta and *A. ?regia* N.E. Brown, and Philippine *A. atropurpurea* Engl. The stigmas in *A. suhirmaniana* have rather blunt lobes whereas they are generally distinctly acute in the group; however, the specimen from which the description has been prepared had not attained anthesis and the stigmatic lobes may not be fully developed. The tops of the synandria are deeply impressed with the marginal portions of the synconnective

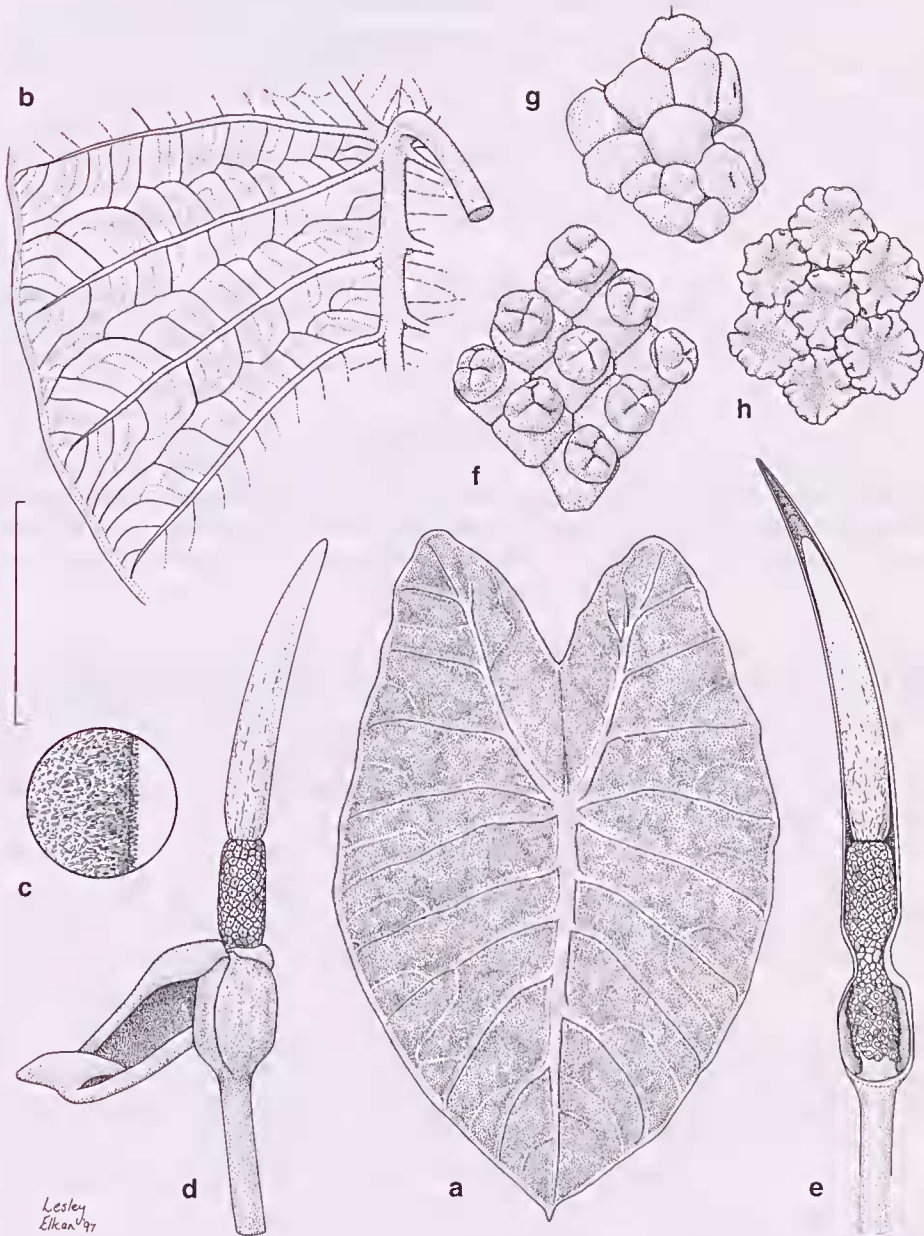


Fig. 1. *Alocasia suhirmaniana*. a, leaf blade in adaxial view; b, venation in abaxial view; c, petiolar pubescence; d, inflorescence; e, unopened inflorescence with part of spathe removed; f, pistils; g, neuter organs of sterile interstice; h, synandria from above. Scale bar: a = 10 cm; b = 6 cm; c = 3 mm; d, e = 4 cm; f, g, h = 6 mm. All prepared from the Type except a, b & c, which are based on material cultivated at the Royal Botanic Gardens Sydney (Acc. No. 970541) from the same original collection as the Type.

somewhat extended so that the pores of the thecae are slightly deflected, where they are more usually flat-topped with the pores facing upwards in the *A. longiloba* group.

Several species in other parts of the genus *Alocasia* have puberulent petioles, including *A. puber* (Hassk.) Schott (Java to Malay Peninsula) and closely allied *A. maquilungensis* Merr. (Philippines) and Bornean *A. sarawakensis* M. Hotta (the latter in juveniles only). Hairy leaves are also known in some Sumatran individuals of *A. ovalifolia* Ridl. and *A. arifolia* Hallier f., and some individuals of New Guinean *A. nicolsonii* A. Hay. In the first three the hairs are tapering and pointed, while those in other species are generally blunt and very short (see e.g. Hay & Wise 1991: fig. 1d). Those of *A. suhirmantiana* are of the latter type, and so small as to be almost invisible to the naked eye, except as a fine velvety bloom.

Other specimens seen: Cult. RBG Sydney, Acc. No. 970541, propagated from material cultivated at Kebun Raya, Bogor, *Hay 14006* (voucher NSW); SE Sulawesi, Tolala, Kjellberg 2428 (BO).

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Reference

Hay, A. & Wise, R. (1991) The genus *Alocasia* (Araceae) in Australasia. *Blumea* 35: 499–545.

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